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CLAIMS

1. A method of automatic gain control, comprising:

detecting a signal envelope voltage responsive to a receiver output;

detecting a clock envelope voltage responsive to a clock signal; and

adjusting a gain to reduce a difference between the signal envelope voltage and the clock envelope voltage.

2. A method as recited in claim 1, wherein the adjusting comprises:

determining the difference between the signal envelope voltage and the clock envelope voltage; and

providing the difference to a gain control input of an amplifier.

3. A method as recited in claim 1, further comprising:

receiving an input signal;

amplifying the input signal in accordance with the gain; and

providing the amplified input signal as the receiver output.

4. A method as recited in claim 1, wherein the clock signal comprises a differential voltage clock signal, and the gain is related to an amplifier circuit.

5. A method as recited in claim 4, wherein the adjusting comprises:

establishing the gain of the amplifier circuit so that a peak voltage or swing of the receiver output is approximately equal to a peak voltage or swing of the differential voltage clock signal.

6. A method as recited in claim 1, wherein the adjusting comprises:

feeding the difference between the signal envelope voltage and the clock envelope voltage back to a differential amplifier circuit.

7. A method as recited in claim 1, wherein the action of detecting a signal envelope voltage comprises detecting a first signal envelope voltage responsive to a first receiver output;

further comprising:

detecting a second signal envelope voltage responsive to a second receiver output; and

adjusting another gain to reduce a difference between the first signal envelope voltage and the second signal envelope voltage.

8. A method as recited in claim 7, wherein the gain and the other gain comprise gains of a first stage and a second stage, respectively, of a two-stage amplifier; and wherein the first receiver output comprises a positive output of the two-stage amplifier, and the second receiver output comprises a negative output of the two-stage amplifier.

9. A method of automatic gain control, comprising:

detecting one or more signal envelope voltages responsive to multiple receiver outputs;

detecting a clock envelope voltage responsive to a clock signal; and

adjusting multiple gains to reduce at least one difference between the one or more signal envelope voltages and the clock envelope voltage.

10. A method as recited in claim 9, wherein the detecting one or more signal envelope voltages comprises at least one of:

tracking the one or more signal envelope voltages using multiple respective capacitances for the multiple receiver outputs; or

tracking the one or more signal envelope voltages using a shared capacitance for the multiple receiver outputs.

11. A method as recited in claim 9, wherein the detecting one or more signal envelope voltages comprises at least one of:

tracking extreme voltage peaks from among the multiple receiver outputs; or

tracking an average of voltage peaks of the multiple receiver outputs.

12. A method as recited in claim 9, wherein the detecting one or more signal envelope voltages comprises at least one of:

tracking positive envelope voltages of the multiple receiver outputs; or

tracking negative envelope voltages of the multiple receiver outputs.

13. A method as recited in claim 9, wherein the adjusting comprises:

determining the at least one difference between the one or more signal envelope voltages and the clock envelope voltage; and

applying the at least one difference to gain control inputs of multiple receivers.

14. A method as recited in claim 9, wherein the action of detecting one or more signal envelope voltages comprises detecting one or more first signal envelope voltages responsive to multiple first receiver outputs;

further comprising:

detecting one or more second signal envelope voltages responsive to multiple second receiver outputs; and

adjusting other multiple gains to reduce at least one difference between the one or more first signal envelope voltages and the one or more second signal envelope voltages.

15. A method of automatic gain control, comprising:

collectively monitoring a group envelope voltage of a group of receiver outputs;

detecting a clock envelope voltage of a clock signal; and

collectively adjusting receiver gains to reduce a difference between the group envelope voltage and the clock envelope voltage.

16. A method as recited in claim 15, wherein the collectively adjusting comprises:

collectively adjusting the receiver gains of multiple amplifiers to cause the group envelope voltage to approximately equal the clock envelope voltage.

17. A method as recited in claim 15, wherein the collectively monitoring comprises at least one of:

detecting the group envelope voltage of the group of receiver outputs using multiple individual envelope detectors; or

detecting the group envelope voltage of the group of receiver outputs using a single group envelope detector.

18. A method as recited in claim 15, wherein the collectively adjusting comprises:

collectively adjusting the receiver gains of multiple amplifiers to reduce the difference between the group envelope voltage and the clock envelope voltage using a feedback loop.

19. A method as recited in claim 18, wherein the detecting comprises:

detecting the clock envelope voltage of the clock signal, the clock signal comprising a differential voltage clock signal that is associated with signal inputs of the multiple amplifiers.

20. A method as recited in claim 15, further comprising:

receiving a group of data signals;

amplifying the group of data signals in accordance with the receiver gains; and

providing the amplified group of data signals as the group of receiver outputs.

21. A method as recited in claim 15, wherein the group of receiver outputs comprises eight receiver outputs.

22. A method of automatic gain control, comprising:

receiving a group of input data signals;

amplifying the group of input data signals in accordance with adjustable gains to produce a group of output data signals;

detecting a group envelope voltage of the group of output data signals;

detecting a clock envelope voltage of a clock signal; and

collectively adjusting the adjustable gains responsive to the group envelope voltage and the clock envelope voltage.

23. A method as recited in claim 22, wherein the collectively adjusting comprises:

collectively adjusting the adjustable gains to reduce a difference between the group envelope voltage and the clock envelope voltage.

24. A method as recited in claim 23, wherein the collectively adjusting further comprises:

determining the difference between the group envelope voltage and the clock envelope voltage; and

applying the difference to gain control inputs of a group of receivers.

25. A method as recited in claim 24, wherein the determining comprises:

determining the difference between the group envelope voltage and the clock envelope voltage with a feedback component.

26. A method as recited in claim 25, wherein the feedback component comprises a g_m stage.

27. A method as recited in claim 22, wherein the receiving and the amplifying are performed by a group of amplifying receivers.

28. A method as recited in claim 27, wherein the group of amplifying receivers comprises a group of differential amplifiers.

29. A method as recited in claim 22, wherein the detecting a group envelope voltage is performed by at least one envelope detector, and the detecting a clock envelope voltage is performed by a clock envelope detector.

30. A method as recited in claim 22, wherein the clock signal is associated with the group of input data signals.